

Descriptive captions and credits for cover images, from right to left:

- The 3-dimensional structure of the major surface proteins from a virus that causes the common cold (Human Rhinoviorus 1A). The image was obtained from the Virus Particle Explorer (VIPER), a portal for researchers using data from the Protein Data Bank on the 3-dimensional structure of viruses and their components. *Image credit: PDB ID:1R1A, Kim, S.S. Smith, T.J. Chapman, M.S. Rossmann, M.G. Pevear, D.C. Dutko, F.J. Felock, P.J. Diana, G.D. McKinlay, M.A.* (1989) J.Mol.Biol. 210:91. VIPER can be accessed at http://mmtsb.scripps.edu/viper/ and the Protein Data Bank at http://www.pdb.org.
- 2. Landsat image of Lake Powell. The Landsat Project is a joint initiative of the U.S. Geological Survey (USGS) and the National Aeronautics and Space Administration (NASA). Landsat's Global Survey Mission is to establish and execute a data acquisition strategy that ensures repetitive acquisition of observations over the Earth's land mass, coastal boundaries, and coral reefs; and to ensure the data acquired are of maximum utility in supporting the scientific objectives of monitoring changes in the Earth's land surface and associated environment. *Image credit: Data available from U.S. Geological Survey, at the National Center for EROS, Sioux Falls, SD.*
- 3. A numerical simulation of an idealized, wind-driven ocean basin, calculated on massively parallel computers at the San Diego Supercomputer Center. Such computations capture the complex spatio-temporal variability seen in the Earth's oceans, allowing a better understanding of the Earth's climate system. *Image credit: Jeffrey B. Weiss, University of Colorado, Boulder.*
- 4. A numerical simulation depicting the merger of two black holes and the ripples in spacetime--known as gravitational waves. *Image credit: simulations by Max Planck Institute for Gravitational Physics (Albert-Einstein-AEI); visualization by Werner Benger, Zuse Institute, Berlin (ZIB) and AEI. The computations were performed using the computational resources of the National Center for Supercomputing Applications (NCSA).*
- 5. Simultaneous measurements of electron density and sodium concentrations in the middle atmosphere using an incoherent scatter radar and a lidar at the Sondrestrom Research Facility in Greenland. The relation between electron concentrations and neutral sodium allows studies of the gas phase chemistry that influences the behavior of Earth's sodium layer. Long-term observations of the middle atmosphere are important for understanding the effects of global change at altitudes where the potential impact can be most dramatic. *Image credit: Craig Heinselman, SRI International.*
- 6. This idealized brain representation allows visual evaluation of complex comparisons of data obtained for an individual target brain with those for a template based on normal subjects. The color-coding reflects the magnitude of the difference between the target and a normal subject, while the size of the spheres reflects the likelihood of finding variation in the corresponding brain region. *Image credit: Paul Thompson, Arthur Toga and Colin Holmes, University of California, Los Angeles.*
- 7. A model of the atomic structure of a silicon nanocrystal. This research involves using computer programs based on concepts from quantum physics to calculate the most probable structure for a molecule or solid. *Image credit: Lucas Wagner, Quantum Simulations Laboratory, North Carolina State University; simulations completed using computational resources provided by the National Center for Supercomputing Applications.*
- 8. The results of conventional DNA sequencing technology using fluorescent dye labels in combination with electrophoresis. Recent advances in sequencing technology hold the promise for greatly increasing the amount of DNA sequence data that can be gathered. *Image credit: Gerald Baber, Virginia Tech.*
- 9. A pillar of hydrogen gas and dust in the Eagle Nebula (M16) is a composite of images taken by the Hubble Space Telescope. The image is part of a collection of data at the National Space Science Data Center (NSSDC; see http://nssdc.gsfc.nasa.gov). The NSSDC is supported by the National Aeronautics and Space Administration (NASA) and is responsible for the long term archiving and preservation of space science data. *Image Credit: Jeff Hester and Paul Scowen (Arizona State University), NASA (NASA Identifier STScI-PRC95-44b), and the Space Telescope Science Institute.*

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